

IN THE SPECIFICATION:

Supplemental to the amendments made to the specification in the August 24, 2006, January 30, 2007 and August 7, 2007 Amendments, please replace the Summary of Invention section on page 3, line 23 through page 4, line 4 with the following amended section:

-- The present invention has been made in light of these problems, and accordingly, is an object of the present invention to enable dynamic creating of constraining shapes in a compounded real space, and to enable easy operating of virtual objects using constraining shapes even where constraining shapes have not been registered beforehand.

In order to achieve the above objects, according to a first aspect of the present invention, an information processing device for aiding control operations relating to controlling the position and orientation of a virtual object comprises image-capturing means for capturing a real image in real space, virtual image generation means for generating a virtual image of a virtual object according to the position and orientation of the image capturing means and superimposed means for superimposing the generated virtual image with the captured real image. The device also comprises determination means for determining an input of a constraining shape or an operation of the virtual object, inputting means for inputting three-dimensional position information of a plurality of positions inputted by moving ~~a real object~~ an operating unit in the real space by the user, the ~~real object~~ operating unit being capable of measuring the position and orientation in the real space, setting means for setting a constraining shape by using a shape generated based on the inputted three-dimensional position information in case of the input of the constraining shape, and operating means for performing an operation controlling the position and

the orientation of the virtual object based on the constraining shape in accordance with a user's instruction in case of the operation of the virtual object.

According to another aspect of the present invention, an information processing method for changing the position and orientation of a virtual object in mixed reality space obtained by combining a real space and a virtual space comprises the steps of obtaining three dimensional position information of a plurality of positions designated by an operating unit moved by a user in the real space, the operating unit being capable of measuring the position and orientation, determining an input of a constraining shape or an operation of the virtual object, obtaining a constraining shape by using a shape generated based on the obtained three-dimensional position information in case of the input of the constraining shape, changing the position and orientation of the virtual object according to instructions from the user, based on the obtained constraining shape as constraint condition in case of the operation of the virtual object, and combining an image of the virtual object generated according to the changed position and orientation, and the real image, to obtain a mixed reality image.

Further objects, features and advantages of the present invention will become apparent from the following description of the preferred embodiments with reference to the attached drawings.--